

Amendments to the Claims

Please cancel Claims 10 and 35 without prejudice to or disclaimer of the subject matter recited therein.

Please amend Claims 1, 7, 8, 12, 13 and 36-38 to read as follows.

1. (Currently amended) An ink jet recording apparatus to be shipped in which a recording head filled with transporting ink different from recording ink is mounted on a carriage, said apparatus comprising:

recovery means for effecting a recovery operation with respect to said recording head; and

control means for controlling said recovery means such that an on-arrival recovery mode executed first by said recovery means after arrival of said recording apparatus differs from a normal recovery mode executed by said recovery means after a first usage of said recording apparatus,

wherein viscosity of the transporting ink is greater than that of the recording ink.

2. (Previously presented) An ink jet recording apparatus according to claim 1, wherein said recovery means comprises suction means for effecting suction from said recording head, and suction pressure in ink suction from said recording head by said

suction means in the on-arrival recovery mode is set to be greater than suction pressure in ink suction in the normal recovery mode.

3. (Previously presented) An ink jet recording apparatus according to claim 1, wherein said recovery means comprises suction means for effecting suction from said recording head, and a suction amount in ink suction from said recording head by said suction means in the on-arrival recovery mode is set to be greater than a suction amount in ink suction in the normal recovery mode.

4. (Previously presented) An ink jet recording apparatus according to claim 1, wherein said recovery means comprises suction means for effecting suction from said recording head, and a number of suction operations in ink suction from said recording head by said suction means in the on-arrival recovery mode is set to be greater than a number of suction operations in ink suction in the normal recovery mode.

5. (Previously presented) An ink jet recording apparatus according to claim 1, wherein the on-arrival recovery mode is a mode in which one kind of recovery operation in the normal recovery mode is continuously executed a plurality of times.

6. (Previously presented) An ink jet recording apparatus according to claim 1, wherein said recovery means includes suction means for effecting suction from said recording head, and a number of idle suction operations for discharging the ink from a

cap by driving said suction means in a communication condition between an interior of said cap and the atmosphere upon ink suction from said recording head by said suction means in the on-arrival recovery mode is set to be greater than a number of idle suction operations in the normal recovery mode.

7. (Currently amended) An ink jet recording apparatus ~~according to claim 1~~ to be shipped in which a recording head filled with transporting ink different from recording ink is mounted on a carriage, said apparatus comprising:

recovery means for effecting a recovery operation with respect to said recording head; and

control means for controlling said recovery means such that an on-arrival recovery mode executed first by said recovery means after arrival of said recording apparatus differs from a normal recovery mode executed by said recovery means after a first usage of said recording apparatus,

wherein said recovery means includes suction means for effecting suction from said recording head and a wiper for wiping said recording head, and a number of wiping operations of said wiper after ink suction from said recording head by said suction means in the on-arrival recovery mode is set to be greater than a number of wiping operations after ink suction in the normal recovery mode.

8. (Currently amended) An ink jet recording apparatus according to claim 1 to be shipped in which a recording head filled with transporting ink different from recording ink is mounted on a carriage, said apparatus comprising:

recovery means for effecting a recovery operation with respect to said recording head; and

control means for controlling said recovery means such that an on-arrival recovery mode executed first by said recovery means after arrival of said recording apparatus differs from a normal recovery mode executed by said recovery means after a first usage of said recording apparatus,

wherein said recovery means includes a wiper for wiping said recording head and a cleaner for cleaning said wiper, and a number of cleaning operations of said cleaner after the wiping of said wiper in the on-arrival recovery mode is set to be greater than a number of cleaning operations after the wiping in the normal recovery mode.

9. (Previously presented) An ink jet recording apparatus according to claim 1, wherein said recovery means includes suction means for effecting suction from said recording head and a wiper for wiping said recording head, and, in the on-arrival recovery mode, after ink suction from said recording head is firstly effected by said suction means, wiping of said wiper is effected.

Claim 10 (cancelled).

11. (Previously presented) An ink jet recording apparatus according to claim 1, wherein the recording ink includes color material and the transporting ink does not include color material or has less of a color component than that of the recording ink.

12. (Currently amended) An ink jet recording apparatus to be shipped in which a recording head filled with transporting ink different from recording ink is mounted on a carriage, said apparatus comprising:

recovery means for effecting a recovery operation with respect to said recording head; and

control means for controlling said recovery means such that an on-arrival recovery mode executed first by said recovery means after arrival of said recording apparatus is the same as a recovery mode executed by said recovery means when said recording head is exchanged,

wherein viscosity of the transporting ink is greater than that of the recording ink.

13. (Currently amended) An ink jet recording apparatus to be shipped in which a recording head filled with transporting ink different from the recording ink is mounted on a carriage, said apparatus comprising:

recovery means for effecting a recovery operation with respect to said recording head;

detection means for detecting whether an ink tank for storing recording ink is mounted on said carriage; and

alert means for providing an alert if said detection means detects that said ink tank is mounted on said carriage when the recovery operation is executed for a first time after arrival of said recording apparatus,

wherein viscosity of the transporting ink is greater than that of the recording ink.

14. (Previously presented) An ink jet recording apparatus according to claim 1, wherein said recording head includes an ink discharging electrothermal converter for generating thermal energy utilized for discharging the ink.

15. (Previously presented) An ink jet recording apparatus according to claim 14, wherein the ink is discharged by utilizing pressure change based on growth of a bubble created by film boiling caused by the thermal energy generated by said electrothermal converter.

16. (Previously presented) An ink jet recording apparatus according to claim 1, wherein said recovery means comprises suction means for effecting ink suction from said recording head and the transporting ink is heated by an ink temperature maintaining electrothermal converter within said recording head before or during the ink suction by said suction means in the on-arrival recovery mode.

17. (Previously presented) An ink jet recording apparatus according to claim 1, wherein said recovery means comprises suction means for effecting ink suction from said recording head and the transporting ink is heated by an ink discharging electrothermal converter within said recording head before or during the ink suction by said suction means in the on-arrival recovery mode.

18. (Previously presented) An ink jet recording apparatus according to claim 1, wherein said recovery means comprises suction means for effecting ink suction from said recording head and the transporting ink is heated by an ink temperature maintaining electrothermal converter and an ink discharging electrothermal converter within said recording head before or during the ink suction by said suction means in the on-arrival recovery mode.

19. (Previously presented) An ink jet recording apparatus according to claim 1, wherein said recovery means comprises suction means for effecting ink suction from said recording head and the transporting ink is discharged by an ink discharging electrothermal converter within said recording head before or during the ink suction by said suction means in the on-arrival recovery mode.

20. (Previously presented) An ink jet recording apparatus according to claim 1, wherein said recovery means comprises suction means for effecting ink suction from said recording head and the transporting ink is heated by an ink temperature

maintaining electrothermal converter within said recording head and the transporting ink is discharged by an ink discharging electrothermal converter during the ink suction by said suction means in the on-arrival recovery mode.

21. (Previously presented) An ink jet recording apparatus according to claim 1, wherein said recovery means comprises suction means for effecting ink suction from said recording head and the transporting ink is heated by an ink temperature maintaining electrothermal converter within said recording head from before the ink suction to the end of the ink suction by said suction means in the on-arrival recovery mode.

22. (Previously presented) An ink jet recording apparatus according to claim 1, wherein said recovery means comprises suction means for effecting ink suction from said recording head and the transporting ink is heated by an ink discharging electrothermal converter within said recording head from before the ink suction to the end of the ink suction by said suction means in the on-arrival recovery mode.

23. (Previously presented) An ink jet recording apparatus according to claim 1, wherein said recovery means comprises suction means for effecting ink suction from said recording head and the transporting ink is heated by an ink temperature maintaining electrothermal converter and an ink discharging electrothermal converter within said recording head from before the ink suction to the end of the ink suction by said suction means in the on-arrival recovery mode.

24. (Previously presented) An ink jet recording apparatus according to claim 1, wherein said recovery means comprises suction means for effecting ink suction from said recording head and the transporting ink is discharged by an ink discharging electrothermal converter within said recording head from before the ink suction to the end of the ink suction by said suction means in the on-arrival recovery mode.

25. (Previously presented) An ink jet recording apparatus according to claim 1, wherein said recovery means comprises suction means for effecting ink suction from said recording head and the transporting ink is heated by an ink temperature maintaining electrothermal converter and the transporting ink is discharged by an ink discharging electrothermal converter within said recording head from before the ink suction to the end of the ink suction by said suction means in the on-arrival recovery mode.

26. (Previously presented) An ink jet recording apparatus according to claim 1, wherein said recovery means comprises suction means for effecting ink suction from said recording head and, when the transporting ink is heated and discharged by an ink discharging electrothermal converter within said recording head from before the ink suction to the end of the ink suction by said suction means in the on-arrival recovery mode, an input signal value, frequency, ink color to be inputted and a discharge port can be selected appropriately, and any input signal value, frequency and ink color can be inputted to said electrothermal converter of said recording head.

27. (Previously presented) An ink jet recording apparatus according to claim 1, further comprising time counting means for counting an elapsed time from when the recording apparatus is shipped.

28. (Previously presented) An ink jet recording apparatus according to claim 1, further comprising time reading means for reading an elapsed time from when the recording apparatus is shipped.

29. (Previously presented) An ink jet recording apparatus according to claim 1, further comprising control means for judging and determining a heating amount of said recording head on the basis of an elapsed time from when the recording apparatus is shipped.

30. (Previously presented) An ink jet recording apparatus according to claim 1, further comprising temperature history storing means for storing a temperature history from when the recording apparatus is shipped.

31. (Previously presented) An ink jet recording apparatus according to claim 1, further comprising temperature history reading means for reading a temperature history from when the recording apparatus is shipped.

32. (Previously presented) An ink jet recording apparatus according to claim 1, further comprising heating control means for judging and determining a heating amount of said recording head on the basis of a temperature history from when the recording apparatus is shipped.

33. (Original) An ink jet recording apparatus according to claim 32, wherein a heating temperature for each color can be set by said heating control means.

34. (Previously presented) An ink jet recording apparatus according to claim 1, further comprising storing means capable of re-writing and calling an elapsed time and temperature history from when the recording apparatus is shipped.

Claim 35 (cancelled)

36. (Currently amended) A method for handling an ink jet recording apparatus comprising a carriage for mounting a recording head for effecting recording by discharging recording ink and for moving the recording head, and recovery means for effecting a recovery operation with respect to the recording head, the method comprising the steps of:

shipping the ink jet recording apparatus from a manufacturing factory in a condition that the recording head filled with transporting ink different from the recording ink is mounted on the carriage; and

controlling the recovery means such that an on-arrival recovery mode executed first by the recovery means after arrival of the recording apparatus differs from a normal recovery mode executed by the recovery means after a first usage of the recording apparatus,

wherein viscosity of the transporting ink is greater than that of the recording ink.

37. (Currently amended) A method for handling an ink jet recording apparatus comprising a carriage for mounting a recording head for effecting recording by discharging recording ink and for moving the recording head, and recovery means for effecting a recovery operation with respect to the recording head, the method comprising the steps of:

shipping the ink jet recording apparatus from a manufacturing factory in a condition that the recording head filled with transporting ink different from the recording ink is mounted on the carriage; and

controlling the recovery means such that an on-arrival recovery mode executed first by the recovery means after arrival of the recording apparatus is the same as a recovery mode executed by the recovery means when the recording head is exchanged,

wherein viscosity of the transporting ink is greater than that of the recording ink.

38. (Currently amended) A method for handling an ink jet recording apparatus comprising a carriage for mounting a recording head for effecting recording by discharging recording ink and for moving the recording head, and a mounting section for mounting an ink tank for storing the recording ink to be supplied to the recording head, the method comprising the steps of:

shipping the ink jet recording apparatus from a manufacturing factory in a condition that the recording head filled with transporting ink different from the recording ink is mounted on the carriage;

effecting a recovery operation of the recording head by use of recovery means;

detecting whether the ink tank is mounted on the carriage; and

providing an alert if detected that the ink tank is mounted on the carriage when the recovery operation is executed for a first time after arrival of the recording apparatus,

wherein viscosity of the transporting ink is greater than that of the recording ink.